

programs offer a general engineering curriculum; students then specialize in graduate school or on the job. Most engineering degrees are granted in electrical, mechanical, or civil engineering. However, engineers trained in one branch may work in related branches.

Many sales engineers first worked as engineers. For some, the engineering experience was necessary to obtain the technical background needed to effectively sell their employers' products or services. Others moved into the occupation because it offered better earnings and advancement potential or because they were looking for a new challenge.

New graduates with engineering degrees may need sales experience and training to obtain employment directly as a sales engineer. This may involve teaming with a sales mentor who is familiar with the business practices, customers, and company procedures and culture. After the training period has been completed, the sales engineer may continue to partner with someone who lacks technical skills, yet excels in the art of sales.

Promotion may include a higher commission rate, larger sales territory, or promotion to supervisor or marketing manager. In other cases, sales engineers may leave their companies and form a small independent firm that may offer higher commissions and more freedom. Independent firms tend to be small, although relatively few sales engineers are self-employed.

It is important for sales engineers to continue their education throughout their careers because much of their value to their employer depends on their knowledge of the latest technology. Sales engineers in high-technology areas, such as information technology or advanced electronics, may find that technical knowledge can become obsolete rapidly.

Job Outlook

Employment of sales engineer is expected to grow about as fast as the average for all occupations through the year 2010. Projected employment growth stems from the increasing variety and number of goods to be sold. Competitive pressures and advancing technology will force companies to improve and update product designs more frequently and to optimize their manufacturing and sales processes.

Employment opportunities and earnings may fluctuate from year to year because sales are affected by changing economic conditions, legislative issues, and consumer preferences. Prospects will be best for those with the appropriate knowledge or technical expertise, as well as the personal traits necessary for successful sales work.

While most job openings will be new positions created as companies expand their sales force, some openings will arise each year from the need to replace sales workers who transfer to other occupations or leave the labor force; compared to other occupations, however, the number of these openings should be relatively small.

Earnings

Compensation methods vary significantly by the type of firm and product sold. Most employers use a combination of salary and commission or salary plus bonus. Commissions usually are based on the amount of sales, whereas bonuses may depend on individual performance, on the performance of all sales workers in the group or district, or on the company's performance. Earnings from commissions and bonuses may vary greatly from year to year, depending on sales ability, the demand for the company's products or services, and the overall economy.

Median annual earnings of sales engineers, including commission, were \$56,520 in 2000. The middle 50 percent earned between \$44,240 and \$76,230 a year. The lowest 10 percent earned less than \$33,930 and the highest 10 percent earned more than \$95,560

a year. Median annual earnings in the industries employing the largest number of sales engineers in 2000 were as follows:

Electrical goods	\$67,100
Computer and data processing services	60,810
Professional and commercial equipment	49,860

In addition to their earnings, sales engineers who work for manufacturers are usually reimbursed for expenses such as transportation, meals, hotels, and customer entertainment. In addition to typical benefits, sales engineers often get personal use of a company car and frequent-flyer mileage. Some companies offer incentives such as free vacation trips or gifts for outstanding performance. Sales engineers who work in independent firms may have higher but less stable earnings and, often, relatively few benefits.

Related Occupations

Sales engineers must have sales ability and knowledge of the products they sell, as well as technical and analytical skills. Other occupations that require similar skills include advertising, marketing, promotions, public relations, and sales managers; engineers; insurance sales agents; purchasing managers, buyers, and purchasing agents; real estate brokers and sales agents; sales representatives, wholesale and manufacturing; and securities, commodities, and financial services sales agents.

Sources of Additional Information

For more information about becoming a sales engineer, contact:
► Manufacturers' Agents National Association, P.O. Box 3467, Laguna Hills, CA 92654-3467. Internet: <http://www.manaonline.org>
Career and certification information is available from:
► Manufacturers' Representatives Educational Research Foundation, P.O. Box 247, Geneva, IL 60134. Internet: <http://www.mrerrf.org>

Sales Representatives, Wholesale and Manufacturing

(O*NET 41-4011.01, 41-4011.02, 41-4011.03, 41-4011.04, 41-4011.05, 41-4011.06, 41-4012.00)

Significant Points

- Many are self-employed manufacturers' agents who work for a commission.
- A bachelor's degree increasingly is required; nevertheless, some individuals with previous sales experience enter the occupation without a college degree.
- Prospects will be best for those with the appropriate knowledge or technical expertise, as well as the personal traits necessary for successful selling.

Nature of the Work

Sales representatives are an important part of manufacturers' and wholesalers' success. Regardless of the type of product they sell, their primary duties are to interest wholesale and retail buyers and purchasing agents in their merchandise, and to address any of the client's questions or concerns. Sales representatives represent one or several manufacturers or wholesale distributors by selling one product or a complimentary line of products. Sales representatives also advise clients on methods to reduce costs, use their products, and increase sales. They market their company's products to

manufacturers, wholesale and retail establishments, construction contractors, government agencies, and other institutions. (Retail salespersons, who sell directly to consumers, and sales engineers, who specialize in sales of technical products and services, are discussed elsewhere in the *Handbook*.)

Depending on where they work, sales representatives have different job titles. Those employed directly by a manufacturer or wholesaler often are called *sales representatives*. *Manufacturers' agents* or *manufacturers' representatives* are self-employed sales workers who contract their services to all types of manufacturing companies. However, many of these titles are used interchangeably.

Sales representatives spend much of their time traveling to and visiting with prospective buyers and current clients. During a sales call, they discuss the client's needs and suggest how their merchandise or services can meet those needs. They may show samples or catalogs that describe items their company stocks and inform customers about prices, availability, and ways in which their products can save money and improve productivity. Because a vast number of manufacturers and wholesalers sell similar products, sales representatives must emphasize any unique qualities of their products and services. As independent agents, they might sell several complementary products made by different manufacturers and, thus, take a broad approach to their customers' business. Sales representatives may help install new equipment and train employees. They also take orders and resolve any problems with or complaints about the merchandise.

Obtaining new accounts is an important part of the job. Sales representatives follow leads from other clients, track advertisements in trade journals, participate in trade shows and conferences, and may visit potential clients unannounced. In addition, they may spend time meeting with and entertaining prospective clients during evenings and weekends.

In a process that may take several months, sales representatives present their product and negotiate the sale. Aided by a laptop computer connected to the Internet, they often can answer technical and nontechnical questions immediately.

Frequently, sales representatives who lack technical expertise work as a team with a technical expert. In this arrangement, the technical expert—sometimes a sales engineer—will attend the sales presentation to explain the product and answer questions or concerns. The sales representative makes the preliminary contact with customers, introduces the company's product, and closes the sale. The representative is then able to spend more time maintaining and soliciting accounts and less time acquiring technical knowledge.



Sales representatives, wholesale and manufacturing, advise potential buyers on the use of their products.

After the sale, representatives may make follow-up visits to ensure that the equipment is functioning properly and may even help train customers' employees to operate and maintain new equipment. Those selling consumer goods often suggest how and where merchandise should be displayed. Working with retailers, they may help arrange promotional programs, store displays, and advertising.

Sales representatives have several duties beyond selling products. They also analyze sales statistics; prepare reports; and handle administrative duties, such as filing their expense account reports, scheduling appointments, and making travel plans. They study literature about new and existing products and monitor the sales, prices, and products of their competitors.

Manufacturers' agents who operate a sales agency must also manage their business. This requires organizational skills as well as knowledge of accounting, marketing, and administration.

Working Conditions

Some sales representatives have large territories and travel considerably. A sales region may cover several States, so they may be away from home for several days or weeks at a time. Others work near their "home base" and travel mostly by automobile. Due to the nature of the work and the amount of travel, sales representatives typically work more than 40 hours per week.

Although the hours are long and often irregular, most sales representatives have the freedom to determine their own schedule. Consequently, they can arrange their appointments so they can have time off when they want it. Sales representatives are often on their feet for long periods and may carry heavy sample products, which necessitates some physical stamina.

Dealing with different types of people can be stimulating but demanding. Sales representatives often face competition from representatives of other companies. Companies usually set goals or quotas that representatives are expected to meet. Because their earnings depend on commissions, manufacturers' agents are also under the added pressure to maintain and expand their clientele.

Employment

Manufacturers' and wholesale sales representatives held about 1.8 million jobs in 2000. Three of every 5 salaried representatives worked in wholesale trade—mostly for distributors of machinery and equipment, groceries and related products, and motor vehicles and parts. Others were employed in manufacturing and mining. Due to the diversity of products and services sold, employment opportunities are available in every part of the country in a wide range of industries.

In addition to those working directly for a firm, many sales representatives are self-employed manufacturers' agents. They often form small sales firms and work for a straight commission based on the value of their own sales. However, manufacturers' agents usually gain experience and recognition with a manufacturer or wholesaler before becoming self-employed.

Training, Other Qualifications, and Advancement

The background needed for sales jobs varies by product line and market. Most firms require a strong educational background and increasingly prefer or require a bachelor's degree as the job requirements have become more technical and analytical. Nevertheless, many employers still hire individuals with previous sales experience who do not have a college degree. For some consumer products, factors such as sales ability, personality, and familiarity with brands are as important as a degree. On the other hand, firms selling complex, technical products may require a technical degree in addition to some sales experience. Many sales representatives attend seminars in sales techniques or take courses in marketing,

economics, communication, or even a foreign language to provide the extra edge needed to make sales. In general, companies are looking for the best and brightest individuals who have the personality and desire to sell.

Many companies have formal training programs for beginning sales representatives lasting up to 2 years. However, most businesses are accelerating these programs to reduce costs and expedite the returns from training. In some programs, trainees rotate among jobs in plants and offices to learn all phases of production, installation, and distribution of the product. In others, trainees take formal classroom instruction at the plant, followed by on-the-job training under the supervision of a field sales manager. Some sales representatives complete certification courses to become Certified Professional Manufacturers' Representatives (CPMRs).

New workers may get training by accompanying experienced workers on their sales calls. As they gain familiarity with the firm's products and clients, these workers are given increasing responsibility until they are eventually assigned their own territory. As businesses experience greater competition, increased pressure is placed upon sales representatives to produce sales.

Sales representatives stay abreast of new products and the changing needs of their customers in a variety of ways. They attend trade shows where new products and technologies are showcased. They also attend conferences and conventions to meet other sales representatives and clients and discuss new product developments. In addition, the entire sales force may participate in company-sponsored meetings to review sales performance, product development, sales goals, and profitability.

Those who want to become sales representatives should be goal-oriented and persuasive, and work well both independently and as part of a team. A pleasant personality and appearance, the ability to communicate well with people, and problem-solving skills are highly valued. Furthermore, completing a sale can take several months and thus requires patience and perseverance.

Frequently, promotion takes the form of an assignment to a larger account or territory where commissions are likely to be greater. Experienced sales representatives may move into jobs as sales trainers, who instruct new employees on selling techniques and company policies and procedures. Those who have good sales records and leadership ability may advance to sales supervisor or district manager.

In addition to advancement opportunities within a firm, some manufacturers' agents go into business for themselves. Others find opportunities in purchasing, advertising, or marketing research.

Job Outlook

Employment of sales representatives, wholesale and manufacturing, is expected to grow more slowly than the average for all occupations through the year 2010. Continued growth due to the increasing variety and number of goods to be sold will be tempered by the increased effectiveness and efficiency of sales workers. Many job openings will result from the need to replace workers who transfer to other occupations or leave the labor force.

Prospective customers will still require sales workers to demonstrate or illustrate the particulars about the good or service. However, computer technology makes them more effective and productive, for example, by allowing them to provide accurate and current information to customers during sales presentations. In addition, electronic commerce provides sales representatives another way to advertise and sell, thus requiring fewer sales representatives to do the same amount of work.

Manufacturers are expected to continue outsourcing sales duties to independent agents rather than using in-house or direct selling personnel. To their advantage, these agents are more likely to work

in a sales area or territory longer than representatives, creating a better working relationship and understanding of how customers operate their businesses. Agents are paid only if they sell, which reduces the overhead cost to their clients. Also, by using an agent who usually lends his or her services to more than one company, companies can share costs with the other companies involved with that agent.

Those interested in this occupation should keep in mind that direct selling opportunities in manufacturing are likely to be best for products with strong demand. Furthermore, jobs will be most plentiful in small wholesale and manufacturing firms because a growing number of these companies will rely on agents to market their products as a way to control their costs and expand their customer base.

Employment opportunities and earnings may fluctuate from year to year because sales are affected by changing economic conditions, legislative issues, and consumer preferences. Prospects will be best for those with the appropriate knowledge or technical expertise as well as the personal traits necessary for successful selling.

Earnings

Compensation methods vary significantly by the type of firm and product sold. Most employers use a combination of salary and commission or salary plus bonus. Commissions usually are based on the amount of sales, whereas bonuses may depend on individual performance, on the performance of all sales workers in the group or district, or on the company's performance.

Median annual earnings of sales representatives, wholesale and manufacturing, technical and scientific products, were \$52,620, including commission, in 2000. The middle 50 percent earned between \$37,420 and \$74,470 a year. The lowest 10 percent earned less than \$27,450, and the highest 10 percent earned more than \$102,000 a year. Median annual earnings in the industries employing the largest number of sales representatives, technical and scientific products, in 2000 were as follows:

Computer and data processing services	\$62,310
Professional and commercial equipment	56,840
Drugs, proprietaries, and sundries	56,660
Machinery, equipment, and supplies	52,820
Electrical goods	51,650

Median annual earnings of sales representatives, wholesale and manufacturing, except technical and scientific products, were \$40,340, including commission, in 2000. The middle 50 percent earned between \$28,850 and \$57,280 a year. The lowest 10 percent earned less than \$21,450, and the highest 10 percent earned more than \$82,830 a year. Median annual earnings in the industries employing the largest number of sales representatives, except technical and scientific products, in 2000 were as follows:

Machinery, equipment, and supplies	\$43,190
Professional and commercial equipment	41,880
Electrical goods	41,390
Groceries and related products	37,220
Miscellaneous nondurable goods	33,630

In addition to their earnings, sales representatives are usually reimbursed for expenses such as transportation costs, meals, hotels, and entertaining customers. They often receive benefits such as health and life insurance, pension plan, vacation and sick leave, personal use of a company car, and frequent flyer mileage. Some companies offer incentives such as free vacation trips or gifts for outstanding sales workers.

Unlike those working directly for a manufacturer or wholesaler, manufacturers' agents are paid strictly on commission and are usually

not reimbursed for expenses. Depending on the type of product or products they are selling, their experience in the field, and the number of clients, their earnings can be significantly higher or lower than those working in direct sales.

Related Occupations

Sales representatives, wholesale and manufacturing, must have sales ability and knowledge of the products they sell. Other occupations that require similar skills include advertising, marketing, promotions, and public relations, and sales managers; insurance sales agents; purchasing managers, buyers, and purchasing agents; real estate brokers and sales agents; retail salespersons; sales engineers; and securities, commodities, and financial services sales agents.

Sources of Additional Information

Career information on manufacturers' agents is available from:

► Manufacturers' Agents National Association, P.O. Box 3467, Laguna Hills, CA 92654-3467. Internet: <http://www.manaonline.org>

Career and certification information is available from:

► Manufacturers' Representatives Educational Research Foundation, P.O. Box 247, Geneva, IL 60134. Internet: <http://www.mrref.org>

Sales Worker Supervisors

(O*NET 41-1011.00, 41-1012.00)

Significant Points

- Applicants with experience as a retail salesperson, cashier, or customer service representative should have the best job opportunities.
- The number of self-employed sales worker supervisors in retail trade is expected to decline as independent retailers face increasing competition from national chains.
- Work schedules may be irregular and often include evenings and weekends.
- A postsecondary degree is increasingly needed for advancement into management.

Nature of the Work

Sales worker supervisors oversee the work of sales and related workers such as retail salespersons, cashiers, customer service representatives, stock clerks and order fillers, sales engineers, and wholesale and manufacturing sales representatives. They are responsible for interviewing, hiring, and training employees, as well as preparing work schedules and assigning workers to specific duties. Many of these workers hold job titles such as *sales manager* or *department manager*. Under the occupational classification system used in the *Handbook*, however, workers with the title *manager*, who mainly supervise nonsupervisory workers, are called *supervisors* rather than *managers* even though many of these workers often perform many managerial functions. (Sales worker supervisors oversee retail salespersons, cashiers, customer service representatives, stock clerks and order fillers, sales engineers, and sales representatives, wholesale and manufacturing; these workers are discussed elsewhere in the *Handbook*.)

In retail establishments, sales worker supervisors ensure that customers receive satisfactory service and quality goods. They also



Sales worker supervisors ensure that the store functions smoothly.

answer customers' inquiries and deal with complaints, and may handle purchasing, budgeting, and accounting. Their responsibilities vary, depending on the size and type of establishment. As the size of retail stores and the types of goods and services increase, these workers tend to specialize in one department or one aspect of merchandising. (Managers in eating and drinking places are discussed in the *Handbook* statement on food service managers.)

Sales worker supervisors in large retail establishments, often referred to as department managers, provide day-to-day oversight of individual departments, such as shoes, cosmetics, or housewares in large department stores; produce and meat in grocery stores; and sales in automotive dealerships. These workers establish and implement policies, goals, objectives, and procedures for their specific departments; coordinate activities with other department heads; and strive for smooth operations within their departments. They supervise employees who price and ticket goods and place them on display; clean and organize shelves, displays, and inventory in stockrooms; and inspect merchandise to ensure that nothing is outdated. Sales worker supervisors also review inventory and sales records, develop merchandising techniques, coordinate sales promotions, and may greet and assist customers and promote sales and good public relations.

Sale workers supervisors in nonretail establishments supervise and coordinate the activities of sales workers who sell industrial products, automobiles, or services such as advertising or Internet services. They may prepare budgets, make personnel decisions, devise sales-incentive programs, assign sales territories, or approve sales contracts.

In small or independent companies and retail stores, sales worker supervisors not only directly supervise sales associates, but are also responsible for the operation of the entire company or store. Some are also self-employed business or store owners.

Working Conditions

Most sales worker supervisors have offices. In retail trade, their offices are within the stores, usually close to the area they oversee. Although some time is spent in the office completing merchandise orders or arranging work schedules, a large portion of their work-day is spent on the sales floor, supervising employees or selling.

Work hours of supervisors vary greatly among establishments, because work schedules usually depend on customers' needs. Most supervisors work 40 hours or more a week; long hours are common. This is particularly true during sales, holidays, busy shopping hours,